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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/544,128	08/02/2005	Trevor Burbridge	36-1916	8580

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EXAMINER	
BENOIT, ESTHER	

ART UNIT	PAPER NUMBER
2442	

MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/544,128	BURBRIDGE ET AL.	
	Examiner	Art Unit	
	ESTHER BENOIT	2442	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 November 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 November 2008* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendments

1. Claims 1-15 are pending in this application. Claims 1 and 13-15 have been amended.

Response to Arguments

2. Applicant's arguments, see Remarks, filed November 19, 2008, with respect to the rejection(s) of claim(s) 1 under 102(b) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Liu et al. (Broadcast Audience Estimation, 2000)

Drawings

3. The drawings were received on November 19, 2008. These drawings are now accepted..

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-15 are rejected under 35 U.S.C. 103(a) as being anticipated by Friedman (*Multicast Session Membership Size Estimation*, March 1999) , in view of Liu et al. (Broadcast Audience Estimation, 2000)

With respect to claim 1, Friedman discloses transmitting to receivers receiving the multicast a plurality of requests each including a probability parameter, whereby each terminal replies or not with a corresponding probability (pg. 965, Col. 1, paragraph 5, lines 2-6); counting the number (r) of replies to each request (pg. 972, Col. 1, paragraph 5, lines 5-8); determining, from the counts and parameters, estimates of the number of receivers (pg. 966, Col. 1, paragraph 2, "We model…", lines 1-8); filtering the estimates (pg. 969, Col. 1, paragraph 1, "Yajnik et al.'s…", lines 6-8); determining therefrom a probability parameter such that the risk that the number of replies exceeds a predefined threshold is kept below a predefined value (pg. 968, Col. 1, Section D. "Upper Bound on Polling Probability")

Friedman does not explicitly teach accommodating a dynamic audience size by computing a new probability parameter to be included, by forecasting from the counts and parameters, an upper bound for the number of receivers and repeating the method to provide successive outputs representing estimates of the then current size of the multicast audience.

However, Liu discloses accommodating a dynamic audience size by computing a new probability parameter to be included, by forecasting from the counts and

parameters, an upper bound for the number of receivers repeating the method to provide successive outputs representing estimates of the then current size of the multicast audience (pg. 955, paragraph 1, "The maximum likelihood…" to pg. 956, Col. 1, paragraph 2, "The Poisson approximation…", *with an emphasis on pg. 956, Col. 1, paragraph 2, in order to show accommodation for estimating a dynamic audience size*)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Friedman to incorporate the teachings of Liu to set an upper bound for the number of audience members *because* this will allow the broadcast industry to better predict the size of the audience by setting an upper threshold and adjusting that bound to accommodate the calculated audience size. Estimating audience size is good for feedback control in the broadcast industry.

With respect to claim 2, Friedman discloses estimating the maximum audience size corresponding to a predetermined probability of receiving a number of replies equal to that observed, given the probability parameter used; (pg. 969, Col. 2, paragraph 1, "Our algorithm…") performing said forecasting using said estimated maximum audience size and at least one previous value of said maximum audience size; determining the new probability parameter (P(t.sub.i+1)) that, with the forecast maximum size, would involve the risk of the number of replies exceeding the capacity available to receive them falling below a predetermined risk threshold (pg. 968, Col. 1, Section D., paragraph 1)

With respect to claim 3, Friedman discloses a method including generating a filtered version of the estimated maximum sizes, prior to said forecasting (pg. 969, Col. 1, paragraph 1, "Yajnik et al.'s…", lines 6-8)

With respect to claim 4, Friedman discloses a method in which the filtering of the estimated maximum sizes is performed by a Wiener filter (pg. 969, Col. 1, paragraph 1, "Yajnik et al.'s…", lines 6-8)

With respect to claim 5, Friedman discloses a method including adaptively adjusting the parameters of said filtering of the estimated maximum sizes in dependence on the power spectrum of the estimates (pg. 970, Col. 2, paragraph 2, "This section…", lines 9-11)

With respect to claim 6, Friedman discloses a method in which the forecasting is performed by extrapolating past values of the estimated maximum size (pg. 970, Col. 2, paragraph 2, "This section…", lines 9-11)

With respect to claim 7, Friedman discloses a method in which said filtering of the estimates is performed by a Wiener filter (pg. 969, Col. 1, paragraph 1, "Yajnik et al.'s…", lines 6-8)

With respect to claim 8, Friedman discloses a method including adaptively adjusting the parameters of said filtering of the estimates as a function of the power spectrum of past values of the estimates (pg. 970, Col. 2, paragraph 2, "This section…", lines 9-11)

With respect to claim 9, Friedman discloses a method in which said filtering of the estimates is performed after ceasing to determine said estimates (pg. 969, Col. 1, paragraph 1, "Yajnik et al.'s…", lines 6-8)

With respect to claim 10, Friedman discloses a method in which said filtering of the estimates is performed each time a new estimate is determined (pg. 969, Col. 1, paragraph 1, "Yajnik et al.'s…", lines 6-8)

With respect to claim 11, Friedman discloses a method in which said filtering of the estimates is performed each time a new estimate is determined and in which the same filter parameters are used for the filtering of the estimates and the filtering of the maximum estimated sizes (pg. 969, Col. 1, paragraph 1, "Yajnik et al.'s…", lines 6-8)

With respect to claim 12, Friedman discloses a method including measuring the probability of loss of requests or replies and applying a correction to the first estimated size (pg. 968, Col. 2, Section F., Paragraph 2, lines 11-13)

With respect to claim 13, Friedman discloses transmitting to receivers receiving the multicast a plurality of requests each including a probability parameter (P), each terminal replying or not with a corresponding probability (pg. 965, Col. 1, paragraph 5, lines 2-6); counting the number (r) of replies to each request (pg. 972, Col. 1, paragraph 5, lines 5-8); determining from the count a probability parameter to be included in a subsequent step (pg. 968, Col. 1, Section D. "Upper Bound on Polling Probability")

Friedman does not explicitly teach accommodating a dynamic audience size by computing a new probability parameter and repeating the method to provide successive outputs representing estimates of the then current size of the multicast audience.

However, Liu discloses accommodating a dynamic audience size by computing a new probability parameter and repeating the method to provide successive outputs representing estimates of the then current size of the multicast audience (pg. 955, paragraph 1, "The maximum likelihood…" to pg. 956, Col. 1, paragraph 2, "The Poisson approximation…", *with an emphasis on pg. 956, Col. 1, paragraph 2, in order to show accommodation for estimating a dynamic audience size*)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Friedman to incorporate the teachings of Liu to compute a new probability parameter *because* this will allow the broadcast industry to better predict the size of the audience. Estimating audience size is good for feedback control in the broadcast industry.

With respect to claim 14, Friedman discloses transmitting to receivers receiving a multicast, a plurality of requests, each request including a probability parameter (P), each terminal replying or not with a corresponding probability (pg. 965, Col. 1, paragraph 5, lines 2-6); counting the number (r) of replies to each request; (pg. 972, Col. 1, paragraph 5, lines 5-8) determining, from the counts and parameters, estimates of the number of receivers (pg. 966, Col. 1, paragraph 2, "We model…", lines 1-8); filtering the estimates (pg. 969, Col. 1, paragraph 1, "Yajnik et al.'s…", lines 6-8);

determining therefrom a probability parameter such that the risk that the number of replies exceeds a predefined threshold is kept below a predefined value (pg. 968, Col. 1, Section D. “Upper Bound on Polling Probability”)

Friedman does not explicitly teach accommodating a dynamic audience size by computing a new probability parameter to be included, by forecasting from the counts and parameters, an upper bound for the number of receivers and repeating the method to provide successive outputs representing estimates of the then current size of the multicast audience.

However, Liu discloses accommodating a dynamic audience size by computing a new probability parameter to be included, by forecasting from the counts and parameters, an upper bound for the number of receivers repeating the method to provide successive outputs representing estimates of the then current size of the multicast audience (pg. 955, paragraph 1, “The maximum likelihood…” to pg. 956, Col. 1, paragraph 2, “The Poisson approximation…”, *with an emphasis on pg. 956, Col. 1, paragraph 2, in order to show accommodation for estimating a dynamic audience size*)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Friedman to incorporate the teachings of Liu to set an upper bound for the number of audience members *because* this will allow the broadcast industry to better predict the size of the audience by setting an upper threshold and adjusting that bound to accommodate the calculated audience size. Estimating audience size is good for feedback control in the broadcast industry.

With respect to claim 15, Friedman discloses transmitting to receivers receiving the multicast a plurality of requests each request including a probability parameter (P), whereby each terminal replies or not with a corresponding probability (pg. 965, Col. 1, paragraph 5, lines 2-6); counting the number (r) of replies to each request (pg. 972, Col. 1, paragraph 5, lines 5-8); determining, from the counts and parameters, estimates of the number of receivers (pg. 966, Col. 1, paragraph 2, "We model…", lines 1-8); filtering the estimates (pg. 969, Col. 1, paragraph 1, "Yajnik et al.'s…", lines 6-8); including adaptively adjusting the parameters of said filtering of the estimates as a function of the power spectrum of past values of the estimates (pg. 970, Col. 2, paragraph 2, "This section…", lines 9-11)

Friedman does not explicitly teach repeating the method to provide successive outputs representing estimates of the then current size of the multicast audience.

However, Liu discloses successive outputs representing estimates of the then current size of the multicast audience (pg. 955, paragraph 1, "The maximum likelihood…" to pg. 956, Col. 1, paragraph 2, "The Poisson approximation…", *with an emphasis on pg. 956, Col. 1, paragraph 2, in order to show accommodation for estimating a dynamic audience size*)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Friedman to incorporate the teachings of Liu to use successive outputs to estimate the dynamic audience size *because* this will allow the broadcast industry to better predict the size of the audience

and adjust the future audience size predictions. Estimating audience size is good for feedback control in the broadcast industry.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Esther Benoit whose telephone number is 571-270-3807. The examiner can normally be reached on Monday through Friday between 7:30 a.m and 5 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Caldwell can be reached on 571-272-3868. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

E.B.
January 28, 2009

/Andrew Caldwell/
Supervisory Patent Examiner, Art Unit 2442